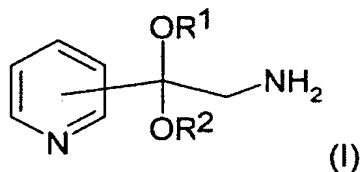


What is claimed is:

1. A process for preparing 1-(pyridinyl)-1,1-dialkoxy-1-aminoethane  
 5 derivatives of the formula (I)

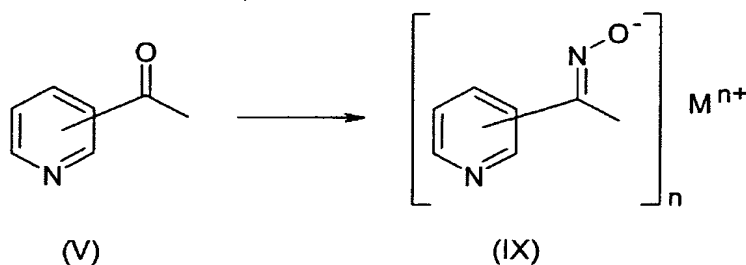


- wherein  $R^1$  and  $R^2$  are each independently straight-chain or branched  
 10 (C<sub>1</sub>-C<sub>6</sub>)-alkyl, or  $R^1$  and  $R^2$  together with the oxygen atoms form a cyclic  
 ketal wherein  $R^1$  and  $R^2$  together are a (C<sub>2</sub>-C<sub>4</sub>)-alkylidene group, and  
 wherein the pyridine radical is substituted in the 2-, 3- or 4-position,

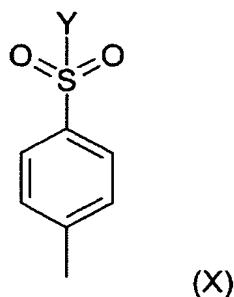
comprising:

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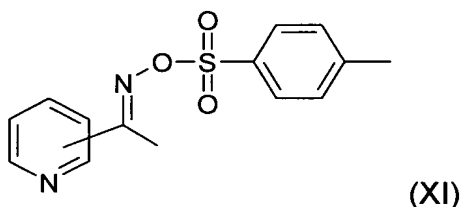
- (a), converting acetylpyridine of the formula (V) using an aqueous solution  
 of a hydroxylammonium compound or an aqueous solution of  
 hydroxylamine, in the presence of an inorganic base, to the acetylpyridine  
 oxime metal salt of the formula (IX) wherein n is 1 or 2 and  $M^{n+}$  is an alkali  
 20 metal or alkaline earth metal ion



- (b), reacting the acetylpyridine metal salt of the formula (IX) with a solution  
 of a p-toluenesulfonic acid derivative (X) containing a leaving group Y



wherein Y is F, Cl or Br, in a suitable solvent which is water-immiscible or  
5 sparingly water-soluble or water-insoluble to give the acetylpyridine tosyl  
oxime of the formula (XI)

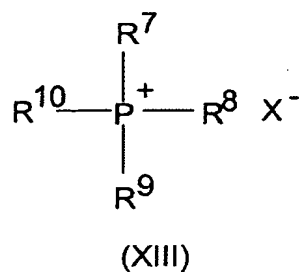
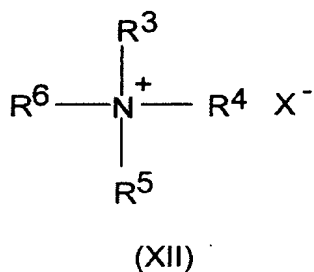


the reaction proceeding in a biphasic mixture of water and suitable solvent,  
optionally with the use of one or more phase transfer catalysts,

(c), reacting acetylpyridine tosyl oxime of the formula (XI) with a mixture of  
15 an alkali metal alkoxide, an alkali metal hydroxide, an alkaline earth metal  
alkoxide or an alkaline earth metal hydroxide with an alcohol to produce a  
compound of the formula (I), wherein alkoxide is  $R^1O^-$  or  $R^2O^-$ , and  
wherein alcohol is  $R^1OH$  or  $R^2OH$ , and  $R^1$  and  $R^2$  are each as defined for  
the compound of the formula (I); and  
20 conducting the process continuously or batchwise independently for each  
process step (a) to (c).

2. The process as claimed in claim 1, wherein the pyridine radical is  
substituted in the 3-position.

3. The process as claimed in claim 1 , wherein  $R^1$  and  $R^2$  are each (C<sub>1</sub>-C<sub>6</sub>)-alkyl.
- 5 4. The process as claimed in claim 1 , wherein, the hydroxylammonium compound in process step (a) is selected from the group consisting of hydroxylamine, hydroxylammonium chloride and hydroxylammonium sulfate.
- 10 5. The process as claimed in claim 1 , wherein, in process step (a),  $M^{n+}$  is  $Li^+$ ,  $Na^+$ ,  $K^+$  or  $Ca^{2+}$ .
6. The process as claimed in claim 1 , wherein, in process step (a), the inorganic base is selected from the group consisting of lithium hydroxide, sodium hydroxide, sodium carbonate, sodium hydrogencarbonate, potassium hydroxide, potassium carbonate and calcium hydroxide.
- 15 7. The process as claimed in claim 1 , wherein, in process step (b), the leaving group Y is Cl.
- 20 8. The process as claimed in claim 1, wherein, in process step (b), the phase transfer catalyst is a quaternary ammonium salt of the formula (XII) or a phosphonium salt of the formula (XIII)



where  $R^3$  to  $R^{10}$  are the same or different and are each independently

- a) (C<sub>1</sub>-C<sub>20</sub>)-alkyl, straight-chain or branched,
- b) benzyl or
- c) phenyl, and

X<sup>-</sup> is an anion, selected from the group consisting of fluoride, chloride,

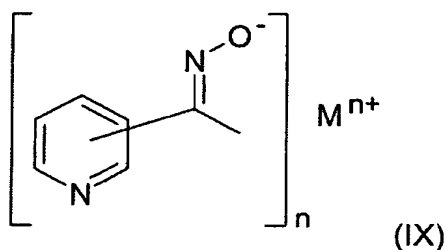
- 5 bromide, iodide, hydroxide, hydrogensulfate, tetrafluoroborate, acetate, trifluoromethanesulfonate, nitrate and hexafluoroantimonate.

9. The process as claimed in claim 1, wherein, in process step (c), the alkali or alkaline earth metal alkoxide, and alkali or alkaline earth metal
- 10 hydroxide are selected from the group consisting of lithium hydroxide, lithium methoxide, lithium ethoxide, sodium hydroxide, sodium methoxide, sodium ethoxide, potassium hydroxide, potassium methoxide, potassium ethoxide, cesium hydroxide, cesium methoxide and cesium ethoxide.

- 15 10. The process as claimed in claim 1, wherein, in process step (c), the acetylpyridine tosyl oxime of the formula (XI) is used without prior drying.

11. A process for preparing an acetylpyridine oxime metal salt of the formula (IX)

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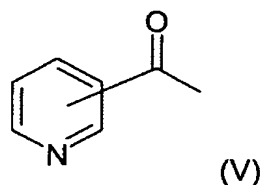


wherein n is 1 or 2 and M<sup>n+</sup> is an alkali metal ion or alkaline earth metal ion, and where the pyridine radical is substituted in the 2-, 3- or 4-position,

25

comprising:

converting acetylpyridine of the formula (V)



- 5     using an aqueous solution of hydroxylamine or of a hydroxylammonium compound, with the addition of an inorganic base, to the acetylpyridine oxime metal salt of the formula (IX); and

conducting the process continuously or batchwise.

10

12. The process as claimed in claim 11, wherein the pyridine radical is substituted in the 3-position.

13. The process as claimed in claim 11, wherein  $M^{n+}$  is  $Li^+$ ,  $Na^+$ ,  $K^+$  or  $Ca^{2+}$ .

15

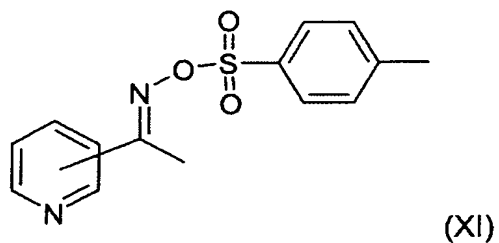
14. The process as claimed claim 11, wherein the inorganic base is lithium hydroxide, sodium hydroxide, sodium carbonate, sodium hydrogencarbonate, potassium hydroxide, potassium carbonate or calcium

20

15. The process as claimed in claim 11, which is conducted continuously.

16. A process for preparing the compound of the formula (XI)

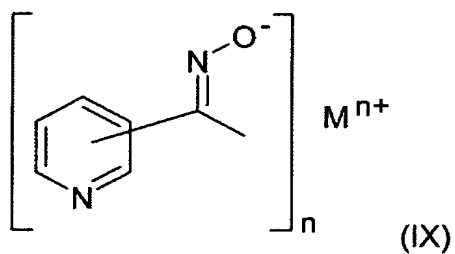
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wherein the pyridine radical is substituted in the 2-, 3- or 4-position,

5 comprising:

reacting the acetylpyridine metal salt of the formula (IX)

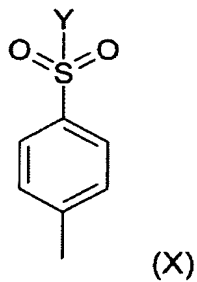


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wherein  $n$  is 1 or 2 and  $M^{n+}$  is an alkali metal ion or alkaline earth metal ion

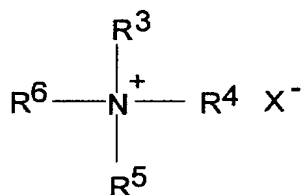
with a solution of a p-toluenesulfonic acid derivative (X) containing a  
leaving group Y

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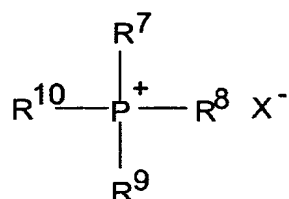


wherein Y is F, Cl or Br, in a suitable solvent which is water-insoluble or sparingly water-soluble to give the acetylpyridine tosyl oxime of the formula (XI),

- 5 the reaction proceeding in a biphasic mixture of water and suitable water-insoluble solvent, and the reaction proceeding optionally with the use of one or more phase transfer catalysts; and conducting the process continuously or batchwise.
- 10 17. The process as claimed in claim 16, which proceeds with the use of one or more phase transfer catalysts, and wherein the phase transfer catalyst is a quaternary ammonium salt of the formula (XII) or a phosphonium salt of the formula (XIII)



(XII)



(XIII)

wherein  $\text{R}^3$  to  $\text{R}^{10}$  are the same or different and are each independently

- a) (C<sub>1</sub>-C<sub>20</sub>)-alkyl, straight-chain or branched,  
 b) benzyl or  
 20 c) phenyl, and

$\text{X}^-$  is an anion, selected from the group consisting of fluoride, chloride, bromide, iodide, hydroxide, hydrogensulfate, tetrafluoroborate, acetate, trifluoromethanesulfonate, nitrate and hexafluoroantimonate, preferably methyltributylammonium chloride.

- 25 18. The process as claimed in claim 16, wherein the pyridine radical is substituted in the 3-position.